September 4, 2002

Mr. Richard Rogers
Drinking Water Branch (3WP22)
United States Environmental Protection Agency
1650 Arch Street – Region III
Philadelphia, PA 19103-2029

Dear Mr. Rogers:

In order to avoid the possibility of withholding funds from the State Revolving Funds (SRF) per section 1420(c) of the 1996 Amendments to the Safe Drinking Water Act, the following constitutes Virginia's Report to the Governor on our Capacity Development Strategy. The report identifies our efforts in ensuring that new community and nontransient noncommunity waterworks demonstrate technical, managerial, and financial capacity and in assisting waterworks to improve technical, managerial, and financial capacity.

This report will be delivered to the Governors Office by October 1, 2002 and will be made available to the public via the world wide web at www.vdh.state.va.us/ddw.

Questions and comments may be directed to Steve Clark, Small Systems Coordinator at 804-786-1760. Thank you for your time and assistance in reviewing this matter.

Sincerely,

Robert B. Taylor, P.E., Director
Division of Drinking Water

September 4, 2002

The Honorable Mark R. Warner
Governor of Virginia
State Capitol, 3rd Floor
Richmond, Virginia 23219

Dear Governor Warner:

Enclosed for your review is a report on the efficacy of the State of Virginia's Capacity Development Strategy. This report is provided to you as a requirement of the Safe Drinking Water Act (SDWA). Also, as a requirement of the SDWA, we must make this report available to the public, and we are doing so by posting this report on the world wide web at www.vdh.state.va.us/ddw.

Comments or questions may be directed to Steve Clark, Small Systems Coordinator, at 804-786-1760. Thank you for your time and consideration.

Sincerely,

Robert B. Taylor, P.E., Director
Division of Drinking Water

Report on the Efficacy of the State of Virginia's Capacity Development Strategy

EXECUTIVE SUMMARY

In order to avoid the possibility of withholding funds from the State Revolving Funds (SRF) per Section 1420(a) of the 1996 Amendments to the Safe Drinking Water Act (SDWA), the following constitutes Virginia's first triennial "Report to the Governor" on the State's Capacity Development (Strategy). This report reflects the Virginia Department of Health (VDH), Division of Drinking Water's (DDW) efforts and status in ensuring that new community and nontransient noncommunity waterworks demonstrate Technical, Managerial, and Financial (TMF) capacity and in assisting all existing waterworks in these same capacity issues in order to assure system performance over the long term. The report covers fiscal years 1999 through 2002 with emphasis on the efficacy of the Strategy's implementation. Recommendations for assistance from the Commonwealth's Administration is included in this report.

Over the past three years, VDH-DDW has completed the following activities in ensuring a successful implementation of the Strategy:

- Developed and initiated a capacity development strategy as approved by the Environmental Protection Agency.
- Performed a baseline assessment of all community and nontransient noncommunity waterworks' capacity.
- Incorporated baseline assessment data into a database
- Began evaluation of data for allocation of VDH-DDW resources
- Established an Oversight Committee to aid in directing our resources
- Utilized the Drinking Water State Revolving Fund to maximize waterworks capacity
- Utilized the contractual services of multiple organizations such as SE-RCAP, VRWA, Mountain Empire Community College, VRWA, and Virginia Tech.
- Established a committee to revise the Comprehensive Business Plan which aids in the evaluation of waterworks technical, managerial, and financial capabilities.

The Virginia Department of Health through the Division of Drinking Water feels that our success with the Strategy, augmented by current policies and practices, will continue to promote public health protection by helping to ensure a waterworks' TMF capacity to provide safe drinking water. In retrospect of the September 11th, 2001 terrorist attacks, this program also indirectly assists in emphasizing and establishing infrastructure security needs, both present and future, as they relate to technical and managerial capacities. Our continued efforts are currently limited due to retention of staff, budgetary constraints, and additional federal regulatory requirements. We are confident that the Administration will support the Virginia Department of Health and its Division of Drinking Water in the continued implementation of this Strategy.

REPORT:

I. Compliance with SDWA Requirements

A. INTRODUCTION

The 1996 Safe Drinking Water Act (SDWA) Amendments include requirements for states to (1) obtain authority to prevent the creation of new nonviable COMMUNITY and NONTRANSIENT NONCOMMUNITY waterworks, (2) to develop a strategy to address the Technical, Financial, managerial, and financial (TMF) capacity of all existing waterworks, and (3) to ensure that potential State Revolving Fund (SRF) recipients have sufficient TMF capacity prior to receiving funds (or that their funds will allow them to receive the TMF capacity they require.)

The Virginia Department of Health (VDH)**,** the State Primacy Agency through the Division of Drinking Water (DDW), chose to develop a comprehensive Capacity Development Strategy (see Attachment A) that includes all of the SDWA-required elements listed below. The summary below highlights the overall VDH-DDW program or activity related to the stated element. It is not meant to describe the program or activity in great detail.

B. SAFE DRINKING WATER ACT: SECTION 1420

1. **Summary of SDWA Section 1420(a): State Authority for New Waterworks**
   VDH-DDW has sufficient authority via the *Code of Virginia* §32.1-169 and 32.1-172B which deals with the Board of Health's (through the VDH-DDW) control over waterworks specifically relating to technical, financial, managerial, and operational capacity (comprehensive business plan). The *Waterworks Regulations* were adopted under this statute.

   a) Basis of Authority:

   1) ***Statutory Authority****:* Virginia Code §32.1-172(A) & (B) prohibit the establishment, construction, or operation of a water supply without a written permit from Virginia Department of Health (VDH-DDW) and requires the submission of TMF information in the application for a permit:

   (A) No owner shall establish, construct, or operate any waterworks, or water supply in the Commonwealth without a written permit from the Commissioner...

   (B) The application for such a permit....shall include a comprehensive business plan detailing the technical, managerial, and financial commitments to be made by the owner to assure that system performance requirements for providing the water supply will be met over the long term."

   2) ***Implementing Authority****:* The Virginia Administrative Code §12VAC5-590-190 requires a waterworks to secure construction and operation permits before commencing construction and operation:

   No owner or other person shall cause or allow the construction at any waterworks or water supply without a written construction permit from the commissioner...furthermore, no owner or other person shall cause or permit any waterworks or water supply to be operated without a written operation permit issued by the commissioner....

3) ***Responsible Agencies:*** The VDH-DDW has jurisdiction over all matters concerning the implementation of TMF capacity development programs for all waterworks in Virginia. The State Corporation Commission is responsible for issuing Certificates of Corporate Needs (CCN) which are required for waterworks serving (or planning to serve) 50 or more persons.

b) Control Points:

1) ***Construction Permit:*** There is a five-step application process that each potential waterworks must complete before a permit to construct will be issued. A complete application includes:

- Notification of intent
- Preliminary engineering conference
- Preliminary engineering report (PER)
- Business Plan which includes:
- Background information on the qualifications of persons involved with the system
- Operations & Maintenance information
- Technical data that supplements the engineering report
- Financial data projecting expenses and revenues and identifying sources of funds and financial controls
- Final plans and specifications

2) ***Operating Permit:***

After construction, the waterworks owner must submit a statement by a licensed professional engineer that the construction work was completed in accordance with the approved plans and specifications. The engineer must base the statement on inspections of the waterworks both during and after the construction. Upon receipt of the statement, VDH-DDW will issue a permit to operate.

2. SDWA Section 1420(c)(2)(A): Methods or criteria the State will use to Identify and Prioritize Waterworks Most in need of Improving Technical, Managerial, and Financial Capacity (TMF).

VDH-DDW has two ways waterworks will be prioritized for and receive assistance. Assistance will be provided by VDH-DDW staff or by referral to various technical assistance contractors such as the Southeast Rural Community Assistance Project, Inc. (SE-RCAP). First, all waterworks that are targeted to receive Drinking Water State Revolving Funds (DWSRF) monies have been assessed by VDH-DWSRF staff to determine if the waterworks has sufficient TMF capacity. Waterworks that do not appear to have sufficient TMF capacity are prioritized to receive assistance such as from SERCAP in preparing a Comprehensive Business Plan (CBP) in the order they appear on the DWSRF priority list. Secondly, existing COMMUNITY, NONTRANSIENT NONCOMMUNITY and TRANSIENT NONCOMMUNITY waterworks will be routinely assessed for TMF capacity. Waterworks needing assistance will be identified, prioritized and referred to the various technical assistance contractors. Assistance given to waterworks, both new and existing, is on-going as an integral portion of VDH-DDW's daily mission.

In July 2001, VDH-DDW completed the initial Baseline Assessment of all community and NTNC waterworks (1867), which represents an estimated 7.6million population base served. The criteria for the assessment was established via committee made up of various stakeholders involved. Once established, a database was created to compare the Baseline Assessment data for referral to program contractors and to identify technical assistance needs for VDH-DDW Field Office tasking. Criteria for the Baseline Assessment are listed in Attachments B and C accompanied by the results as shown in Attachment C.

3. **SDWA Section 1420(c)(2)(B): Factors that Encourage or Impair Capacity**
VDH-DDW has many programs already in place that enhance system capacity. There will be additional programs added as part of the Strategy that will also enhance TMF capacity. The existing VDH-DDW programs that enhance TMF capacity are identified in Attachment A, Table 4-1. Impairments to TMF capacity development may be classified as structural, legal and regulatory, and economic and demographic. There are specific impairments to TMF capacity under each of these categories. The impairments and possible strategies to address the impairments may be found within this table.

4. **SDWA Section 1420(c)(2)(C): Description of how the State will use its Authorities and Resources.**
   a) **To Assist Public Waterworks in Complying with Regulations:** VDH-DDW has many existing programs/activities that are designed to assist waterworks in complying with regulations. Through the use of the DWSRF set-aside funds, VDH-DDW is looking into expanding its programs in the future to provide more assistance.

   b) **To Encourage the Development of Partnerships:** As described above, VDH-DDW has used the DWSRF set-aside funds to establish a PEER Review effort that has developed a list of experts, a list of waterworks with specific needs, and a method to partner the experts and waterworks. Furthermore, a preliminary study researching the possibility of a multiple waterworks cooperative was conducted by Virginia Tech in 2002.

   c) **To Assist Public Waterworks in the Training of Owners/Operators and Certification of Operators:** The VDH-DDW programs that address the assistance with training and certification are described in "Attachment D." Also, as part of the on-site technical assistance contract, the on-site contractor assisted waterworks in obtaining the proper operational training and pre-certification.

5. **SWDA SECTION 1420(c)(2)(D): Description of how the State will establish a baseline and measure improvements in capacity:** VDH-DDW used existing compliance data, sanitary survey data, and managerial and financial capacity data to perform a baseline assessment of the overall TMF capabilities of all COMMUNITY and NONTRANSIENT NONCOMMUNITY (NTNC) waterworks. Indicators of TMF capacity were selected and criteria established. The waterworks will be reassessed after three (3) years to measure improvement over time. VDH-DDW will also obtain information on waterworks receiving contractor on-site technical assistance and the improvements those waterworks have made.

6. **SDWA SECTION 1420(c)(2)(E): Identification of persons who have an interest in or are involved in development and implementation of the Strategy:** Virginia has an on-going, active Waterworks Advisory Committee (WAC) that consists of a diverse group of waterworks stakeholders. This group had representation on a Capacity Development Strategy TEAM which included other individuals interested in the Capacity Development Strategy or its implementation. These individuals were given opportunities to input into the development process and may be consulted in the future regarding the implementation of the Strategy.

II. Current Administration of the Strategy

A. NEW WATERWORKS:

There has been no change in Virginia's legal authority to ensure the TMF capacity of new community and nontransient noncommunity waterworks. The authority remains.

All new waterworks receive a capacity review in accordance with the Code of Virginia and the Strategy. In the report period, eleven of the twenty-nine were required to develop a Comprehensive Business Plan. Attachment E is the tracking form that includes the names and PWSID numbers (identification number) of the FY 00 and FY 01 new community and nontransient noncommunity waterworks.

B. EXISTING WATERWORKS:

Virginia's Strategy is in the early stages of implementation as the Baseline Capacity Assessment was completed by July 1, 2001. We have established a formal Strategy Oversight Committee, which includes the VDH–DDW Capacity Development Coordinator (Small Systems Coordinator), the Director of Compliance and Enforcement, and the Technology Transfer Director. The Oversight Committee is currently reviewing the Statewide Assessment data to make recommendations concerning VDH-DDW resources (personnel and funds) in order to address the needs of waterworks in relation to the Strategy.

III. Program Evaluation

A. Tracking

In order to track the capacity status of each new waterworks that were required to have a Comprehensive Business Plan and to refine it for the future, the VDH-DDW requires the submission of a financial report which summarizes a new waterworks' capacity status and it's cash flow six months after commencing operation. The report must be submitted annually thereafter. The VDH-DDW will use the reports and the SDWIS (Federal/State) database to track new waterworks' monitoring compliance rates.

B. Assessment Data

Overall, the Strategy has been successful in assisting waterworks in maintaining TMF capacity. The VDH-DDW has maintained and is continuing to expand its activities to further augment and support this program. Examples of Capacity Development related activities are: the Baseline Assessment and prioritizing of systems, assistance provided to systems, and reassessment of systems to measure improvements. In order to monitor our effectiveness statewide, an additional assessment will be conducted in 2004 reflecting FY 2003 information. This assessment will be compared to the original Baseline Assessment (1999) to identify areas of continued need. Further recommendations from the Oversight Committee involving the VDH-DDW resource allocations and policy will be made in support of these programs continued efforts.

C. Case Studies

Attached are several case studies demonstrating program efficacy (See Attachment F).

IV. Continuing Our Efforts

A. Introduction

Since 1999, the VDH through the Strategy and current policy, has assisted a multitude of waterworks in returning to and maintaining compliance with the SDWA and in continuing to provide Virginians with safe drinking water. During the past year and a half, the VDH-DDW has had major accomplishments in program integration and planning.

B. Transient Noncommunity Waterworks

As recommended by EPA Region III, a major program change was begun in FY 2002. The Commissioner approved the transfer of the Transient Noncommunity waterworks (TNC) Program from the Local Health Department (LDH) to the VDH-DDW. This integration will provide consistency in implementing the Safe Drinking Water Act. As a result of this interchange, seven new positions (six Environmental Health Specialist Supervisors and one Small Systems Coordinator) within the VDH-DDW was created primarily to manage the TNC transition (~1600 waterworks) and ongoing oversight in addition to everyday support of the VDH-DDW mission requirements.

C. Significant Non-Complying Waterworks

The VDH-DDW continues to use the strategy as a new tool to address Significant Non-Compliers (SNCs). SNCs are waterworks that are consistently out of compliance with our Regulations. Of the **1867** waterworks included in the Baseline Assessment, forty-six waterworks were on the SNC list. Of those forty-six waterworks, none are found on the SNC list as of the date of this report. Additionally, the Strategy may directly address current SNCs and indirectly address possible future SNCs by providing many preventive measures.

D. Drinking Water State Revolving Fund

The VDH-DDW State Revolving Fund (DWSRF) provides financial aid to water systems in need of infrastructure improvement, maintenance, and development. Commonwealth's legislative proposals (SB 1411), that would have allowed the Virginia Resources Authority (VRA) to use assets in the Commonwealth's Water Supply Assistance Grant Fund to issue bonds for water supply projects, was withdrawn prior to the House vote. The DWSRF continues to be administered by the VDH-DDW. Furthermore, in FY99-02, **$73,527,266** in DWSRF funds have been approved for closings on a total of **65** low-interest loans to waterworks. Planning grants have been awarded at **$1,144,661** to **54** separate waterworks during the same period of time.

E. Other Efforts

As outlined in "Attachment D", numerous programs are in place to provide assistance to owners and operators of waterworks, supported through DWSRF funding, to further develop and maintain system TMF capability.

V. Hurdles in Maintaining Program Efficacy

A. With an ending FY2002 state budget crisis, and a 15.4% vacancy rate, resource issues continue to be a problem for resolution within the VDH-DDW. Over the past year, the number of filled full-time positions has increased only by six, which represents six of the seven newly created positions as noted in IV.B. above. The Division is currently filling positions as quickly as possible. Unfortunately, current State budgetary constraints limit future staffing expansion. It is possible that without proper staffing, program efficacy and maintaining state primacy could be threatened.

B. While the DWSRF is approaching $100,000,000 in funding of construction projects and non-construction programs that directly impact waterworks capacity, the funding needs still far exceed the availability of funds.

C. Effective July 1, 2002, the State's Division of Consolidated Laboratories no longer performs water quality analyses for free. This presents an additional financial strain on existing waterworks utilizing these services as required by the SDWA. Current projections within DDW indicate this fee-for-service change in DCLS procedures may result in increased enforcement activity during FY2003 placing a strain on current DDW staff via additional workload requirements.

VI. Recommendations for Assistance from the State Administration

The following recommendations have a direct impact on ensuring the continuing capacity of the Commonwealth's waterworks.

A. Support, where appropriate, the filling of vacancies in DDW assuring the Commonwealth's oversight and technical assistance in protecting the public health via safe drinking water.

B. Support the retention and strengthening of the DWSRF program within the VDH-DDW assuring waterworks TMF capacity and in funding construction projects that provide safe drinking water to the disadvantaged.

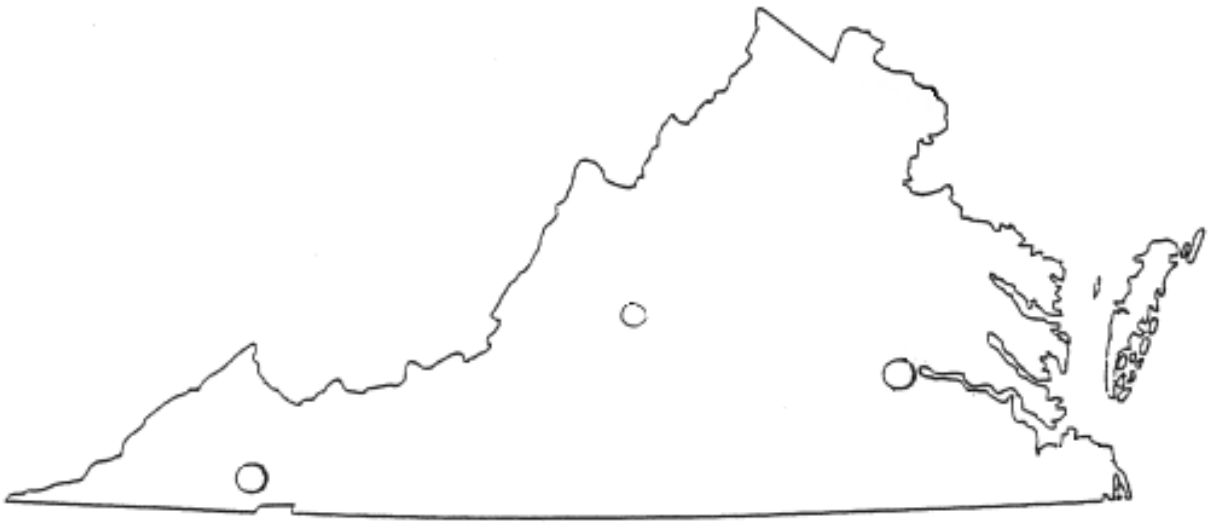
C. Support, as appropriate, reinstating funding of the Department of General Services Division of Consolidated Laboratories analysis of drinking water samples.

For comments or questions involving the State's efficacy with the Capacity Development Strategy please contact Steve Clark, Small Systems Coordinator at 804-786-1760.

Attachments A-G

Attachment A – Virginia Capacity Development Strategy

VIRGINIA CAPACITY DEVELOPMENT STRATEGY



Virginia Department of Health

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

DATE: MAY 1, 2000

TABLE OF CONTENTS

APPENDICES

SECTION I
Executive Summary
Compliance with SDWA Requirements

1.0 INTRODUCTION

The 1996 Safe Drinking Water Act (SDWA) Amendments include requirements for states to (1) obtain authority to prevent the creation of new nonviable COMMUNITY and NONTRANSIENT NONCOMMUNITY waterworks, (2) to develop a strategy to address the capacity of all existing waterworks, and (3) to ensure that potential State Revolving Fund (SRF) recipients have sufficient, technical, managerial, and financial capacity prior to receiving funds (or that the funds will allow them to receive the capacity they require.).

The Virginia Department of Health (VDH)**,** the State Primacy Agency chose to develop a comprehensive Capacity Development Strategy that includes all of the SDWA-required elements listed below. This executive summary highlights the overall VDH program or activity related to the stated element. It is not meant to describe the program or activity in great detail. The details may be found in Sections 2 through 8.

1.1 SDWA SECTION 1420(a): STATE AUTHORITY FOR NEW WATERWORKS

VDH has sufficient authority via the *Code of Virginia* §§32.1-169 and 32.1-172B which deals with the Board of Health's (through the VDH) control over waterworks specifically relating to technical, financial, managerial, and operational capacity (comprehensive business plan). The Code sections are attached in Appendix A. The *Waterworks Regulations* were adopted under this statute. Our Waterworks Permit Application Process is attached in Appendix B.

1.2 SDWA SECTION 1420(c)(2)(A): METHODS OR CRITERIA THE STATE WILL USE TO IDENTIFY & PRIORITIZE WATERWORKS MOST IN NEED OF IMPROVING TECHNICAL, MANAGERIAL, AND FINANCIAL CAPACITY

VDH has two ways waterworks will be prioritized for and receive assistance. Assistance will be provided by VDH staff or by referral to various technical assistance contractors such as the Southeast Rural Community Assistance Project, Inc.-SERCAP. First, all waterworks that are targeted to receive SRF funding will be assessed by VDH SRF staff to determine if the waterworks has sufficient technical, managerial, and financial capacity. Waterworks that do not appear to have sufficient technical, managerial, or financial capacity will be prioritized to receive assistance such as from SERCAP in preparing a Comprehensive Business Plan (CBP) in the order they appear on the SRF priority list. Secondly, existing COMMUNITY, NONTRANSIENT NONCOMMUNITY and TRANSIENT NONCOMMUNITY waterworks will be routinely assessed for technical, managerial, and financial capacity. Waterworks needing assistance will be identified, prioritized and referred to the various technical assistance contractors.

Section 4.3 describes the identification and prioritization for assistance.

1.3 SDWA SECTION 1420(c)(2)(B): FACTORS THAT ENCOURAGE OR IMPAIR CAPACITY

VDH has many programs already in place that enhance system capacity. There will be additional programs added as part of the Capacity Development Strategy that will also enhance capacity. The existing VDH programs that enhance capacity are identified on Table 4-1.

Impairments to capacity development may be classified as structural, legal and regulatory, and economic and demographic. There are specific impairments to capacity under each of these categories. The impairments and possible strategies to address the impairments may be found in Section 6.

1.4 SDWA SECTION 1420(C)(2)(C): DESCRIPTION OF HOW THE STATE WILL USE ITS AUTHORITIES AND RESOURCES

1.4.1 To Assist Public Waterworks in Complying with Regulations

VDH has many existing programs/activities that are designed to assist waterworks in complying with regulations. A list of the existing programs/activities are contained in Table 4-1. Through the use of the SRF set-aside funds, VDH will be expanding its programs to provide more assistance. The types of assistance are described in Section 4.4.

1.4.2 To Encourage the Development of Partnerships

As described above, VDH is using the SRF set-aside funds to establish a PEER Review effort that will develop a list of experts, a list of waterworks with specific needs and a method to partner the experts and waterworks. This process is described in Section 4.4.3.

1.4.3 To Assist Public Waterworks in the Training and Certification of Operators

The VDH programs that address the assistance with training and certification are described on Table 4-1. Also, as part of the on-site technical assistance contract, the on-site contractor may assist waterworks in obtaining the proper training and hence certification.

1.5 SWDA SECTION 1420(c)(2)(D): DESCRIPTION OF HOW THE STATE WILL ESTABLISH A BASELINE & MEASURE IMPROVEMENTS IN CAPACITY

VDH will use existing compliance data, sanitary survey data, and managerial and financial capacity data to assess the overall technical, managerial, and financial capabilities of all COMMUNITY and NONTRANSIENT NONCOMMUNITY (NTNC) waterworks. Indicators of technical, managerial, and financial capacity have been selected and criteria established. The waterworks will be assessed after three (3) years to measure improvement over time. VDH will also obtain information on waterworks receiving contractor on-site technical assistance and the improvements those waterworks have made. Section 4 describes the measurement of the baseline and improvement.

1.6 SDWA SECTION 1420(c)(2)(E): IDENTIFICATION OF PERSONS WHO HAVE AN INTEREST IN OR ARE INVOLVED IN DEVELOPMENT AND IMPLEMENTATION OF THE STRATEGY

Virginia has an on-going, active Waterworks Advisory Committee (WAC) that consists of a diverse group of waterworks stakeholders. This group had representation on a Capacity Development Strategy TEAM which included other individuals interested in the Capacity Development Strategy or its implementation. The TEAM membership is shown in Appendix C. These individuals were given opportunities to input into the development process and may be consulted regarding the implementation of the Strategy. The stakeholder involvement is discussed in Section 5.

SECTION 2
Capacity Development Strategy Elements for New Waterworks

21 GENERAL

The Safe Drinking Water Act Amendments of 1996 ("the Amendments") adopted significant changes in the Safe Drinking Water Act (SDWA). Of particular importance here, the Amendments require States to adopt and implement programs to ensure that waterworks have the capability to comply with existing and anticipated drinking water regulations. These new provisions, known as "capacity development," mark the first time that the Federal government has explicitly required States to take actions to ensure that waterworks will have the resources that are required to provide safe and reliable water service to the public.

Section 1420(a) of the SDWA, requires each State to obtain "the legal authority or other means to ensure that all new community waterworks and new non-transient non-community waterworks commencing operation after October 1, 1999, demonstrate technical, managerial, and financial capacity with respect to each national primary drinking water regulation in effect, or likely to be in effect, on the date of commencement of operations". In other words, this Section of the SDWA requires Virginia to have the ability to prevent a new waterworks from beginning operation unless the waterworks has the technical, managerial, and financial capacity to provide safe and reliable service, both at present and in the future. This provision applies to both COMMUNITY WATERWORKS and NONTRANSIENT NONCOMMUNITY WATERWORKS.

In Virginia, all proposals to create a new waterworks - including community waterworks; nontransient, noncommunity waterworks; and transient noncommunity waterworks - must meet certain statutory and regulatory requirements.

Section 32.1-172 of the *Code of Virginia* states that "No owner shall establish, conduct or operate any waterworks … without a written permit …" and that "an application for a permit shall include a comprehensive business plan detailing the technical, managerial, and financial commitments to be made by the owner in order to assure that the waterworks' performance requirements for providing the water supply will be met over the long term".

The VDH requires a Comprehensive Business Plan (CBP) for the development of a new waterworks or the purchase or transfer of an existing waterworks by a potential first-time owner of a Virginia waterworks or an owner that has a poor compliance history with the *Waterworks Regulations*. Details of this process is attached in Appendix B.

In addition, prior to receiving a permit to construct, the plans and specifications must meet VDH's existing *Waterworks Regulations* to ensure that new waterworks are properly designed and that the physical facilities will be operated in a safe and appropriate manner.

SECTION 3
Capacity Development Strategy Elements for Waterworks Seeking State Revolving Funds (SRF) Assistance

3.1 SDWA REQUIREMENTS FOR SRF APPLICANTS

The SDWA Amendments of 1996 included a provision for the federal government to provide capitalization grants to each state to initiate a State Revolving Fund (SRF) dedicated to funding drinking water projects. The Drinking Water SRF has the requirement to ensure that waterworks receiving SRF funds have sufficient technical, managerial, and financial capacity.

- SDWA in ∋1452 states " … no assistance shall be provided to a public water system that: (*i*) does not have the technical, managerial and financial capacity to ensure compliance with the requirements of this title or (*ii*) is in significant noncompliance with any requirement of the national primary drinking water regulations or variance." However, a waterworks owner may receive assistance if use of the funds will ensure compliance or if the waterworks owner agrees to undertake appropriate changes in operations (including ownership, management, accounting, rates, maintenance, consolidation, alternative water supply, or other procedures) to assure compliance.

- Waterworks that are targeted to receive SRF funding will be assessed by the VDH's VWSRF staff to determine if the waterworks has sufficient technical, managerial, and financial capacity. Waterworks that do not appear to have sufficient technical, managerial, or financial capacity will complete an acceptable Comprehensive Business Plan and be approved prior to funding. Waterworks owners that require assistance in developing a plan will be referred to the SERCAP for assistance in the order they appear on the SRF priority list.

SECTION 4
Capacity Development Strategy Elements for Existing Waterworks

4.1 EXISTING VDH ACTIVITIES THAT ADDRESS CAPACITY DEVELOPMENT

Prior to the 1996 SDWA Amendment requirements, VDH already conducted many activities that relate to waterworks capacity development. These were not typically considered "capacity building" activities and were not packaged together as part of an overall capacity development program. In the preparation of the Capacity Development Strategy, it was important to determine the current activities related to capacity development, how they impacted technical, managerial, or financial capacity, and how VDH coordinates these activities.

Table 4-1 presents activities that deal with waterworks capacity development and how those activities relate to the new SDWA capacity development requirements. This is not meant as an exhaustive list of all of the activities within VDH, but rather those activities that relate in some manner to capacity development.

As Table 4-1 illustrates, VDH conducts many activities that encourage waterworks capacity and activities that will assist in identifying and prioritizing waterworks for technical, managerial, and financial technical assistance. VDH also conducts many activities that will assist in the establishment of a baseline and continued measurement of progress. Table 4-1 identifies existing activities that apply to community, nontransient noncommunity and transient noncommunity waterworks.

4.2 ESTABLISHMENT OF A BASELINE ASSESSMENT

4.2.1 General

As part of the process of determining the basic capacity needs of waterworks, prioritizing the waterworks for technical assistance, and measuring improvement over time, a baseline must be established. The baseline will be established based on an overall assessment that includes current information and new information the State will obtain/develop as a part of this capacity development strategy. This overall assessment that is used to establish the baseline will rely on technical, managerial, and financial indicators. The baseline assessment will be accomplished by July 1, 2001.

4.2.2 Baseline Assessment Using Existing and New Information

The baseline assessment will be used to obtain baseline data and updates on community (C) and nontransient noncommunity (NTNC) waterworks. It is an approach that links compliance monitoring data, sanitary survey data, and capacity assessment data to determine the general technical, financial, and managerial capacity. The information obtained from this type of comprehensive assessment is multi-purposed. It is intended to: 1) establish a baseline, 2) provide a means of monitoring improvement over time, 3) establish a prioritized list for waterworks that need technical, managerial, or financial, capacity assistance, and 4) assist VDH in directing both personnel and money, where they are most needed and effective.

Transient noncommunity waterworks (TNC) where not chosen for the assessments due to the relatively low public health impact associated with their lack of capacity as well as VDH staffing considerations. It is anticipated that the assessments will direct VDH to providing additional technical assistance which the TNC's will be eligible to receive.

This approach takes into account four factors: (1) the waterworks compliance factor, (2) the waterworks condition factor, (3) the waterworks managerial and financial capacity factor and (4) the future

regulation impact factor. This approach is described by the following equation and illustrated on Figure 4-1 on the following page.

A + B + C + D = Overall Capacity Assessment

Where: A = waterworks compliance factor
B = waterworks condition factor
C = waterworks managerial and financial capacity factor
D = future regulations impact factor

The sum of the four factors represents the overall waterworks capacity assessment. The basic type of information and the source of information for each factor is described below. Figure 4-2 illustrates the general process and use of the waterworks capacity assessment.

4.2.2.1 Waterworks Compliance Factor ("A")

The Waterworks Compliance Factor describes the waterworks' ability to meet current SDWA requirements, both in terms of actual maximum contaminant level (MCL) and microbial violations and monitoring reporting violations. This information provides some insight into the waterworks' ability to consistently protect public health and comply with regulations.

Data for this component of the assessment will come from the existing PWS database. This database contains basic waterworks information as well as the compliance history of the waterworks. Currently data is easily accessible for all waterworks. The waterworks compliance factor inherently addresses some components of managerial, technical and operational capacity factors.

4.2.2.2 Waterworks Condition Factor ("B")

Sanitary surveys are currently performed periodically on waterworks. The surveys contain basic information regarding the system condition, including operation and maintenance data. The sanitary survey data will be used to develop a Waterworks Condition Factor for the waterworks. Sanitary Survey data inherently addresses managerial and technical capacity.

4.2.2.3 Waterworks Managerial and Financial Capacity Factor ("C")

This factor describes the waterworks in terms of its managerial and financial capacity (or capacity). Currently, there are some data collected by VDH for this type of information. However, the quantity of information and the quality vary accordingly. Therefore, in order to evaluate waterworks adequately for managerial and financial capacity, new information may have to be obtained at the sanitary survey.

4.2.2.4 Waterworks Future Regulation Impact

This factor describes the waterworks capacity to meet selected new regulations. VDH staff will make a determination of whether or not existing waterworks will meet the new requirements. The following proposed regulations will be evaluated: Operator Certification, Interim Enhanced Surface Water Treatment Rule (IESWTR), Stage 1 Disinfection/Disinfection By-Products Rule and the Ground Water Rule.

4.3 PRIORITIZATION OF WATERWORKS TO RECEIVE TECHNICAL ASSISTANCE

Waterworks will be prioritized for targeted on-site assistance using a two-component approach. The two components are: (1) SRF Priority Systems, and (2) Systems Referred by Capacity Assessment Process. These components will have a prioritized list of waterworks that need on-site assistance. The lists will funnel into a VDH Oversight Committee that will determine the need for and type of on-site assistance. A diagram illustrating the flow of prioritization is contained on Figure 4-3, Process for Referral for On-Site Assistance. Below is a description of each of the components.

Transient noncommunity waterworks requiring capacity development assistance will be referred through VDH's routine surveillance program (see 4.4.1).

4.3.1 SRF Priority Waterworks

Prior to receiving SRF money, the waterworks must demonstrate that they have sufficient technical, managerial, and financial capacity or they must demonstrate that the use of the SRF money will result in sufficient capacity. The process of assessing whether or not these waterworks have sufficient capacity was described previously in Section 3. The waterworks that are targeted for SRF funding in the annual Intended Use Plan will be assessed by SRF staff.

Based on the assessment of the SRF targeted waterworks, the waterworks that needs assistance will be referred to the Oversight Committee to be added to the list of waterworks needing on-site assistance. This list will be prioritized in the order the waterworks fall on the SRF priority list. The Oversight Committee will then have the discretion of altering the order, if there are circumstances that justify the movement of one waterworks ahead of another.

4.3.2 Referrals From Capacity Assessment Process

Based on the process described in Section 4.2, systems will be assessed for waterworks capacity. A list of waterworks requiring on-site assistance will be prepared and prioritized. The assistance may be related to technical, managerial, or financial capacity deficiencies. The waterworks will be referred to the Oversight Committee to be added to the list of waterworks needing on-site assistance. The Oversight Committee will then have the discretion of altering the order, if there are circumstances or issues of acute public health consequence that justify the movement of one waterworks ahead of another. Concurrence from the Field Office will be obtained prior to any referral to a contractor.

4.4 ON-SITE AND TECHNICAL ASSISTANCE

On-site and technical assistance may be provided to the waterworks by VDH or an outside contractor. The VDH assistance is a continuation of the existing assistance that is provided. The contractor assistance is existing contractual agreements that provides more resources for a greater number of visits and more services. The waterworks that receive on-site assistance from a contractor will be determined by the Oversight Committee from the prioritized list as described above. In this section, a distinction is

made between technical assistance (which may include technical, managerial, and financial aspects) that may be provided without actually visiting a waterworks and on-site assistance which is physically visiting and assisting a waterworks. The majority, if not all, of the assistance provided by contract will be on-site assistance, while the VDH assistance is a mixture of both types of assistance.

4.4.1 VDH

Currently, VDH provides on-site and technical assistance in many ways. Assistance may come from the Field Office personnel or the Central Office personnel. The assistance may be very simple, such as answering a question over the phone to very involved assistance such as providing information needed to complete a Comprehensive Business Plan. The assistance includes all of the factors, technical, managerial, and financial. VDH may become aware of the need for assistance through: individuals calling to request assistance, through data gathering efforts, customer complaints, or other means. VDH will maintain its assistance activities as part of the Capacity Development Strategy. VDH's on-site assistance is provided through the Sanitary Survey program. Waterworks receive an on-site visit at established frequencies not exceeding one per 18 months. VDH on-site visits allows opportunities for unlimited technical assistance to owners/operators.

4.4.2 Technical Assistance Contractors

The SDWA Amendments allow states to use funds from the SRF for various program activities, including technical assistance and capacity development. The VDH has chosen to use some of its set-aside funds to contract a technical assistance provider to perform on-site assistance for waterworks in developing a Comprehensive Business Plan.

4.4.3 Peer Review Program

Another SRF funded activity is the Peer Review Program. The Drinking Water Peer Review Program is a volunteer program designed primarily to provide technical expertise to waterworks in participating communities throughout the State. This program is geared to small and rural communities but not limited by size or function. It is an innovative approach addressing environmental performance, system capacity, and the management of drinking water facilities utilizing the expertise created by the establishment of Peer Review Teams.

The Drinking Water Peer Review Program is further described in Appendix D.

4.5 MEASUREMENT OF PROGRESS AND IMPROVEMENT IN WATERWORKS CAPACITY

After the baseline assessment, updated data for the four factors (waterworks compliance, waterworks condition, waterworks capability, and future impacts) will be collected in calendar year 2004 for all community and nontransient noncommunity waterworks. This year was chosen because this type of effort may not show improvements for several years until the on-site assistance and other VDH programs related to capacity development have had a chance to make an impact and proposed regulations affecting these waterworks will be final in the four (4) year period: Operator Certification 02/05/99, LT1ESWTR 11/00/00, Stage 1 D/DBP 12/00/98, Filter Backwash Recycle 08/00, Radon 08/00 and GWR 11/00/00. After four to five years, however, VDH should see improvements in specific areas or overall. This analysis will indicate to VDH whether or not they are having significant improvements in some areas, but little or none in other areas. In this manner, VDH will be able to target additional assistance in the areas that have not improved.

In addition to measuring improvement by looking at overall waterworks assessment data, VDH will be able to measure improvement by examining the results of its on-site assistance programs. VDH will have data regarding the number of waterworks that were helped and the progress that was made in improving the capacity of those waterworks.

Table 4-1
Existing VDH Activity and the Relationship to 1996 SDWA Amendments

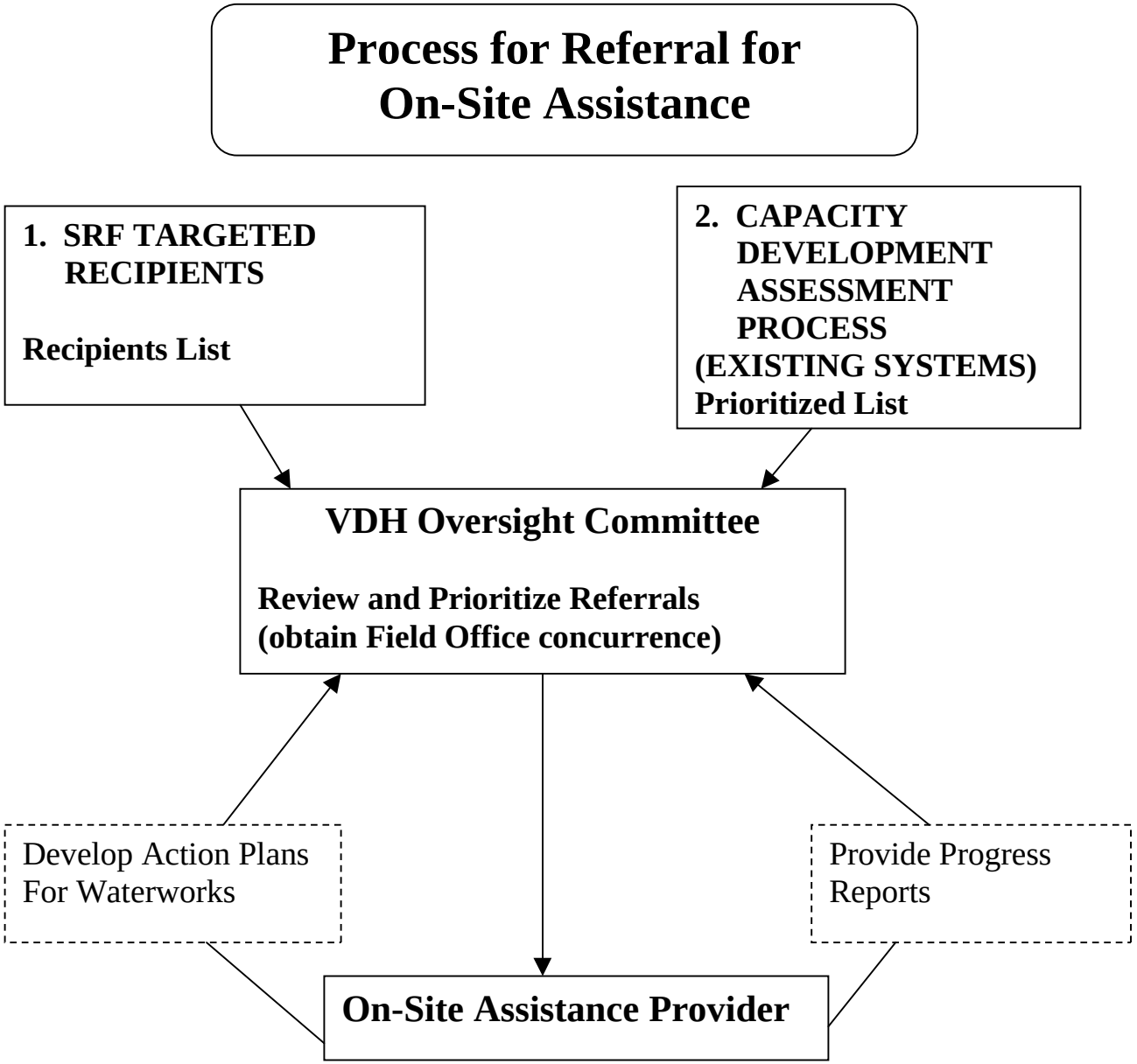
Existing VDH Activity	Requirements in 1996 SDWA Amendments								
	State Authority for New Systems	Identifying and Prioritizing Systems in Need of T, M & F Assistance	Factors That Encourage Capacity	How the State Will Use It's Resources to:			Establish Baseline and Measure Improvement	Identify Persons who are interested in Developing Capacity Development Strategy	Methods to Ensure Systems Eligible to Receive SRF Funding Have Sufficient T, M & F Capacity
				Assist Waterworks in Complying w/Regulations	Encourage the Development of Waterworks Partnerships	Assist Systems in Training and Certification of Operators			
Sanitary Survey Program (C, NTNC, TNC)		T	T	T		T	T		
Plan Reviews/Permits (C, NTNC, TNC)	T	T	T	T	T				T
Compliance Monitoring (Water Quality) (C, NTNC, TNC)		T	T (Free Routine Bacteriological and source development analysis)	T			T		T
Phase II/V Vulnerability Assessments (C, NTNC)		T	T	T			T		
Compliance/ Enforcement Program (C, NTNC, TNC)		T			T		T		

Existing VDH Activity	**Requirements in 1996 SDWA Amendments**								
	State Authority for New Systems	Identifying and Prioritizing Systems in Need of T, M & F Assistance	Factors That Encourage Capacity	How the State Will Use It's Resources to:			Establish Baseline and Measure Improvement	Identify Persons who are interested in Developing Capacity Development Strategy	Methods to Ensure Systems Eligible to Receive SRF Funding Have Sufficient T, M & F Capacity
				Assist Waterworks in Complying w/Regulations	Encourage the Development of Waterworks Partnerships	Assist Systems in Training and Certification of Operators			
Public Waterworks Database (C, NTNC, TNC)		T					T		
Waterworks Advisory Committee (C, NTNC, TNC)								T	
Technical Assistance Related to Circuit Rider Contract (C, NTNC)		T	T	T	T				
Technical Assistance Related to Comprehensive Business Plan Contract (C, NTNC)		T	T						T
Technical Assistance Related to Compliance Issues Contract (C, NTNC)		T	T	T	T		T		T

Existing VDH Activity	**Requirements in 1996 SDWA Amendments**								
	State Authority for New Systems	Identifying and Prioritizing Systems in Need of T, M & F Assistance	Factors That Encourage Capacity	How the State Will Use It's Resources to:			Establish Baseline and Measure Improvement	Identify Persons who are interested in Developing Capacity Development Strategy	Methods to Ensure Systems Eligible to Receive SRF Funding Have Sufficient T, M & F Capacity
				Assist Waterworks in Complying w/Regulations	Encourage the Development of Waterworks Partnerships	Assist Systems in Training and Certification of Operators			
Operator Certification (C, NTNC)		T				T			T
Operator Training By Contract (C, NTNC, TNC)			T	T		T			
Source Water Protection Contract (C, NTNC)			T	T		T			
Source Water Assessment Program (C, NTNC, TNC)			T (completed by VDH)	T	T (Joint SWAs)				

Community (C)
Nontransient Noncommunity (NTNC)
Transient Noncommunity (TNC)

Figure 4-3


Process for Referral for On-Site Assistance
1. SRF TARGETED RECIPIENTS
Recipients List
2. CAPACITY DEVELOPMENT ASSESSMENT PROCESS
(EXISTING SYSTEMS)
Prioritized List
VDH Oversight Committee
Review and Prioritize Referrals
(obtain Field Office concurrence)
Develop Action Plans For Waterworks
Provide Progress Reports
On-Site Assistance Provider

SECTION 5
Stakeholder Involvement in the Development of the Strategy

5.1 THE STAKEHOLDER PROCESS

Stakeholder involvement is important for several reasons. Participation in the strategy development process, by groups and individuals who have a "stake" in owning, managing, operating or financing waterworks can improve the quality of the strategy and the decision-making by providing additional information and diverse perspectives, as well as sensitivities to key issues. As a group, the stakeholders can assist in identifying common goals and developing strategies and actions to meet those goals. It is also important in the implementation process for all of the stakeholders to have bought into the strategy in order for it to work over a long period of time. A strategy that is developed with a consensual approach can also help to avoid or mitigate problems.

A stakeholder group can also help to improve communication and networks between different groups and within the constituencies of the various groups. Much of the work of the Capacity Development Strategy will be educating waterworks management, operators and consumers. A stakeholder group that has access to these people through their membership newsletters and other ways can enhance the success of the strategy by providing information and educating their constituents. It is also important to have a continuing dialogue between the stakeholders and the regulatory and funding agencies as the capacity development strategy is implemented in order to understand what elements are working and what elements are not working. A stakeholder group can work collaboratively to meet the common goal of increasing the capacity of waterworks to provide safe drinking water for all Virginia residents.

5.2 IDENTIFICATION OF STAKEHOLDER GROUP

The Virginia Waterworks Advisory Committee (WAC) formed the core for the stakeholder group. The WAC is well-established and has been meeting regularly since 1974. At the WAC's March 18, 1999 meeting, the VDH presented the framework for the development of the strategy, the EPA SDWA requirements, the schedule for completion, and the stakeholder involvement process. Specific members from VDH staff were appointed to participate on a Capacity Development Strategy Team (TEAM).

The make-up of the TEAM is shown in Appendix C.

SECTION 6
Factors that Encourage or Impair Capacity Development

6.1 FACTORS THAT ENCOURAGE CAPACITY DEVELOPMENT

There are several positive factors in Virginia that help to increase the likelihood that waterworks will have the capacity to provide safe and reliable service to the public. Perhaps most important is the consolidation of most regulatory functions regarding waterworks within VDH, coupled with adequate legal authority for VDH to perform those functions.

VDH has the ability to restrict the formation of new waterworks that cannot demonstrate the capability to provide safe and reliable service. The effective use of this authority can slow down, if not completely eliminate, the formation of waterworks that do not demonstrate a long-term commitment to providing acceptable levels of service.

In addition, VDH has a comprehensive program for providing technical assistance to existing waterworks. The technical assistance program can be used to help waterworks develop the capabilities that are lacking. As mentioned earlier in this report, VDH is developing ways to better target the provision of technical assistance and to identify those waterworks that are most in need of certain types of assistance. This technical assistance program, coupled with VDH's goal of conducting bi-annual sanitary surveys of every surface waterworks, and sanitary surveys every 12 months for every groundwater waterworks**,** provides a high level of oversight of Virginia's waterworks.

Another positive factor is that in Virginia the majority of people are served drinking water by some branch of local government. This virtually insures that a minimum level of planning, management, and financial viability exists. Top management can be replaced by our electoral process if customers do not like the service provided.

Additionally, regulatory authority over land use rests with local government. Comprehensive Plans, Master Plans, Zoning Restrictions, etc. serve to insure that only viable waterworks owners are successful through the process.

New privately owned noncommunity and nontransient noncommunity waterworks are most often associated with a larger commercial enterprise. These are often realized by financing through lending institutions which helps ensure that the waterworks portion is adequately financed and managed.

A major positive factor is that Virginia is fortunate to have an abundant water resource that is generally readily available and appropriate for drinking water use with minimal treatment. The regulatory structure is in place to protect this resource.

Another positive factor is that any waterworks currently serving, or proposing to construct facilities to serve, fifty or more connections also falls under the regulatory jurisdiction of the State Corporation Commission (SCC). SCC regulation serves to insure that waterworks provide adequate and reliable service at just and reasonable rates. Responsibilities of the SCC include making administrative interpretations and rulings relating to waterworks rates and regulations; investigating customer complaints regarding both rates and quality of service; maintaining service territory maps; and conducting formal rate increase and quality of service proceedings. The SCC may require revision of a waterworks' rates and regulations and service improvements if such changes are necessary to protect the public interest.

Through SRF funding, VDH has developed technical assistance contracts for the following services to be performed annually:

- Circuit Rider – An independent contractor will provide on-site operational assistance to 1,000 waterworks with less than 500 population.

- Source Water Protection – An independent contractor will provide guidance to 100 waterworks in developing and implementing a Source Water Protection Program.
- Compliance Guidance – An independent contractor will provide assistance to 26 waterworks that are in significant non-compliance or nearly so.
- Comprehensive Business Plan – An independent contractor will provide hands-on guidance and assistance to 25 waterworks in developing a Comprehensive Business Plan that follows Virginia Department of Health guidelines.

Other SRF funded activities that will enhance capacity include:

- Small System Management Institute – An educational program to provide small system waterworks owners and superintendents intensive training in current business management techniques.
- Speciality Seminars and Training Events – Training for waterworks owners to include such topics as emerging technology, regulatory compliance, and business plan development.
- Training Scholarships – Awarded to waterworks operators to attend the *Waterworks Operators Short Course*, and the *AWWA Water Utility Management Institute* at Virginia Tech.
- Operator Certification and Training – A "Distance Education" program using video telecourses to be available to assist operators in obtaining certification.
- Operator Scholarships – for Distance Learning.
- Operator Availability and Certification Strategy Study – an assessment of Regulations and other factors pertaining to the availability of operators for small water systems.
- Developing Guidelines for Sustainable Small Drinking Water Systems in Virginia Study – which includes developing guidelines for a public health performance appraisal which may assist VDH in evaluating a small waterworks' ability to continue compliance with the SDWA and to ensure long-term sustainability; a pilot project to develop and test and electronic Interactive Technology assistance Network as an interactive problem solving service for small waterworks (web site with "chat room"); and a pilot project and evaluation of the economic and operational feasibility of various remote management methods ranging from installing a simple alarm system to using wireless technology and to assess long-term viability of the system in terms of operation costs.
- Innovative Technology Study – a pilot study of a new and innovative water treatment device/process for use on small waterworks.

6.2 FACTORS THAT IMPAIR CAPACITY DEVELOPMENT

There are several factors that work against VDH's goal of ensuring that every waterworks has the financial, managerial, and technical capacity to provide safe and reliable service, both in the present and the future. Undoubtedly, there are issues that will arise concerning a particular waterworks' capabilities. This section is not meant to address all possible factors that impair the capacity of waterworks; rather it will discuss a few of the more pervasive factors that make it difficult for waterworks to develop their capacity to provide quality water service.

In addition, the following excerpts are presented from the draft report mentioned above "Developing Guidelines for Sustainable Small Drinking Water Systems in Virginia" Study.

"In February 1999 an 8 page, 85-question survey was mailed to each of the 3781 small water system permit holders in Virginia. A total of 542 surveys were returned."

Selected Findings of Interest are noted which illustrates a general lack of knowledge of capacity/issues. "Only 17.6% of the respondents knew the boundary of their well recharge area."

"Central to the process of future planning is that of being prepared for the replacement of existing facilities. Most of the water systems (85.2%) surveyed were unable to state the life expectancy of their system. Without this knowledge, financial and physical planning for replacement of the facilities is almost impossible. Additionally, some systems may require expansion before they require replacement. Again, a large percentage (52.9%) of the systems are unable to project what their service population will be in 10 years. 27.9% stated that they did not know if they could meet water demand in 10 years with their present system. Preparing for expansion is difficult if these are not known."

"Only 28.3% of the systems surveyed include depreciation of existing facilities in their budget. Thus, they are not likely setting aside the appropriate funds to upgrade or replace their system when its life cycle is complete. 52.5% confirm that they are not putting aside money for capital improvements. 48.9% have no operating cash or reserve fund."

"Respondents to the survey indicated that 62.7% did not receive training to update their knowledge at least annually. Additionally, 37.7% stated that they did not receive outside technical assistance."

"87.4% of all systems report having a storage tank. Of these, however, 44.3% are insufficient to provide even a single day worth of water demand. Additionally, only 19.8% of all water systems surveyed had an emergency power supply."

"The results of this survey indicate that small public water systems are hesitant to relinquish control over their resources. 48.7% of the respondents answered that they would not be interested in consolidating physical facilities with another system, while 27.7% indicated they would be interested. 50.4% of the respondents indicated that they would not consolidate management with other systems, while 22.0% indicated that they would be interested. The survey results indicate that small public water systems are hesitant to enter into consolidation."

6.2.1 Structural Factors

One of the problems in Virginia, and in many other states, is the large number of independently owned and operated waterworks. Many of these waterworks are very small, serving fewer than 100 homes, and are often not actively operated or managed. Many of these very small waterworks do not have full-time employees; professional staff, skilled operators; emergency response plans; capital reserves; or access to engineering, accounting, and legal expertise. Under normal conditions, many of these very small waterworks are able to provide safe water to their customers. But under stress (equipment failures, main breaks, extreme weather conditions), it is unlikely that these waterworks can respond appropriately, resulting in a potentially serious threat to the public health and safety.

Another factor that makes it difficult to improve the capacity of waterworks is the lack of profit motive in the operation of most waterworks. Many waterworks in Virginia are owned and operated on a non-profit basis: municipal systems, water authorities, schools, homeowners associations, etc. while these owners are concerned about public service, protection of the public health and welfare, etc. often their financial needs are in competition with or any other public services. When a business is operated on a nonprofit basis, it often relies on volunteers to perform key functions, ranging from serving on boards of directors to assisting in the operations and maintenance of the waterworks. In addition, some nonprofit waterworks have little incentive for the operators to authorize new investments, improve the level of operations or the quality of service to customers, or otherwise provide a high-quality product.

Finally, the location of a waterworks also can impede its ability to develop the required capacity. Waterworks that are located in sparsely populated areas are unlikely to be able to rely on a regional water provider or service company. Similarly, waterworks that do not have access to high-quality raw water will face higher costs and technical challenges that would not exist if higher-quality water supplies were available.

6.2.2 Legal and Regulatory Factors

While waterworks in Virginia are adequately regulated through a permitting system that generally ensures that they meet minimum standards for design, construction and operation, there is no legal mechanism to require consolidation with other waterworks. Prospective new or non-complying waterworks owners are free to choose any ownership option to assure compliance with the *Waterworks Regulations* and the *Code of Virginia*.

Current legal and regulatory factors do not discourage the proliferation of small, stand-alone waterworks**.** Such waterworks are unlikely to generate substantial reserves of capital, aggressively invest in new equipment and technology, or afford the levels of professional expertise that are common in larger waterworks.

Nonmunicipal waterworks generally do not have legal or regulatory authority or support for zoning/land use controls necessary for source water protection nor condemnation powers to obtain land for facilities (wells, tanks, etc.) locations.

6.2.3 Economic and Demographic Factors

Any discussion of the problems that impair the capacity of waterworks would not be complete without recognizing that economics and demographic factors play a major role in the ability of a waterworks to provide safe and reliable service. If funds were unlimited, there would be few impediments to the provision of high-quality service by any waterworks. But, in the real world, there are significant limits on the ability of waterworks to raise their rates to generate the funds required to provide reliable service. The majority of low interest government funding available for waterworks improvements remains unavailable to private owners.

Waterworks in areas that face demographic challenges (relatively few people, low income levels, a high percentage of people with incomes below the poverty level, high unemployment, a high percentage of elderly people) are likely to have waterworks that face capacity development challenges. The root cause of some community waterworks' problems lies in the community itself

6.3 MECHANISMS TO ADDRESS CAPACITY IMPAIRMENT

Some methods to address barriers to capacity development are listed below.

Methods to Eliminate Structural Impairments

- Provide State loans or grants to enable waterworks to improve their infrastructure.
- Provide funding to encourage the creation and expansion of regional water suppliers (either wholesale or retail)

Methods to Eliminate Legal and Regulatory Impairments

- Continue to encourage/require all waterworks to develop a Comprehensive Business Plan.
- Strengthen the encouragement of the consolidation option in funding of infrastructure (DWSRF) and enforcement/compliance actions.

Methods to Eliminate Economic and Demographic Impairments

- Develop incentives for satellite management or other types of regionalization in areas that face economic and demographic challenges
- Develop programs to assist waterworks that have a large number of low-income customers
- Educate consumers in low-income areas about their water rates and service

6.4 ONGOING DETERMINATION OF FACTORS THAT IMPAIR AND ENHANCE CAPACITY

As part of the technical assistance contracts that VDH has developed, reports are sent to VDH describing the contractor's activities. An item included in the report will be those factors that the contractor has experienced that enhanced or impaired waterworks capacity. The identified factors will be anything that is additional to the factors already identified. In this manner, VDH will have an ongoing mechanism to identify factors that impair or enhance capacity.

SECTION 7
Implementation Plan

7.1 IMPLEMENTATION WITHIN THE AGENCY

VDH has created the Capacity Development Strategy Team (TEAM), that is made up of representatives from VDH staff and the Waterworks Advisory Committee. The TEAM membership is shown in Appendix C. The TEAM was created to develop the goals and objectives of the Capacity Development Strategy and to implement guidance and procedures to achieve the mission and goals of the Strategy.

This existing TEAM can be utilized to communicate the Capacity Development Strategy and to help implement the Strategy within the Agency.

7.2 REPORTING REQUIREMENTS

The reporting requirements related to the Capacity Development portion of the 1996 SDWA Amendments are shown on Table 7-1.

7.3 ACTION PLAN

7.3.1 Action Plan for Evaluating New Waterworks

The federal deadline for having a comprehensive program for ensuring that new waterworks have the requisite financial, technical, and managerial capacity is October 1, 1999. By letter dated May 5, 1999, EPA determined that VDH meets the EPA guidance and statutory requirements.

This action plan was formally established by VDH Working Memo 784 dated February 10, 1997 (see Appendix B) and is ongoing.

7.3.2 Action Plan for Evaluating SRF Applicants

Section 3 describes this established procedure.

7.3.3 Action Plan for Evaluating Existing Waterworks

The SDWA requires Virginia to have a capacity development strategy for existing waterworks that are not SRF applicants no later than October 1, 2000.

The baseline assessment described in Section 4.2.2 will be implemented after January 1, 2000 and prior to July 1, 2001. An update of the baseline assessment will be done in calendar year 2004 to measure system improvements over time. See Table 7-2.

Table 7-1
1996 SDWA Capacity Development Reporting Requirements

Section	When	To Whom	By Whom	Description
1420(c)(3)	Not later than 2 years after the date on which a State adopts a capacity development strategy and every 3 years thereafter.	The Governor—and also available to the public.	The head of the State Agency that has primary responsibility to carry out this title in the State shall submit. VDH is the state agency.	Report shall be on the efficacy of the strategy and progress made toward improving the technical, financial, and managerial capacity of public water systems in the State.
1420(b)(2)	Not later than 5 years after the date of enactment of this section and as part of the capacity development strategy of the State.	The EPA Administrator.	State Agency. – VDH	Each State shall report on the success of enforcement mechanisms and initial capacity development efforts in assisting the public water systems listed under paragraph (1) to improve technical, financial, and managerial capacity.
1420(b) (relates to above 1420(b)(2)).	August 6, 1997 (and periodically update)—or—Beginning not later than 1 year after the date of enactment of this section.	The EPA Administrator.	State Agency. - VDH	List of community water systems and non-transient noncommunity water systems that have a history of significant noncompliance, and the reasons for their noncompliance.

Table 7-2
Capacity Development Strategy – Timeline for Action

Action	Date
Baseline Assessment	1-1-2000 thru 7-1-2001
Adopt Strategy to prevent losing 10% SRF grant	3-6-2000
1420(b) 2 Report to EPA	8-6-2001
1420(c) 3 Report to Governor/Public	10-1-2002
Baseline Reassessment	1-1-2004 thru 12-31-2004
1420(c) 3* Report to Governor/Public	10-1-2005

*1420(c) 3 Reports to the Governor and to the public are due every three (3) years from 3-6-2005.

SECTION 8
Communication Strategy

8.1 GOVERNMENTAL AGENCY COMMUNICATION

In the implementation of the Capacity Development Strategy, VDH will need to communicate with other governmental agencies. This communication includes reporting to EPA and the Governor who will want information regarding the success of the strategy and the overall improvement to the waterworks in the State. Within VDH-DWSE, staff will need to communicate regularly on the review of SRF applicants and the status of any technical assistance efforts related to the SRF applicants. In addition, VDH will need to communicate with other agencies that have funding for waterworks, such as Rural Development and the Community Development Block Grant Program.

8.2 STAKEHOLDER COMMUNICATION

As discussed in Section 5, the existing Capacity Development Strategy Team meets approximately once every six months (but will meet more often when important issues arise) to discuss the status of the capacity development efforts. Each of the members of the TEAM can pass on information to their constituents and report any feedback to the TEAM at the next meeting. In addition, VDH can mail out any additional information to the members.

8.3 WATERWORKS COMMUNICATION

An important component of the overall strategy is ensuring that waterworks are aware of the capacity development issues and know their requirements and the financial and technical assistance available. There are many methods available to inform the waterworks, which are described below.

- VDH announced its small system technical assistance contract with SERCAP to provide on-site assistance in developing Comprehensive Business Plan in a mass mailing on July 15, 1998. Waterworks that were interested in this technical assistance were asked to notify SERCAP. A similar announcement will be repeated as needed.

- VDH produced a simple one-page handout listing the DWSRF Programs and Activities (see Appendix E) and has distributed them through conferences and meetings. They are available to be handed out at sanitary surveys and when waterworks owners stop into field or central offices.

- The sanitary survey personnel are trained on the requirements of the Comprehensive Business Plans and will be familiar with the Capacity Development Strategy and can inform the waterworks about the program at the time of the survey,

- The stakeholders on the TEAM can let the waterworks they interact with know about the requirements.

- The contractor offering technical assistance in developing a Comprehensive Business Plan has other technical assistance contacts with waterworks and can inform them of the Strategy and available assistance.

APPENDIX A

CODE OF VIRGINIA

§ **32.1-172. Permit required.** – A. No owner shall establish, construct or operate any waterworks or water supply in the Commonwealth without a written permit from. the Commissioner, except for the extension of water distribution piping having a diameter of eight inches or less and serving less than fifteen equivalent residential connections.

B. The application for such a permit shall comply with regulations of the Board and shall be accompanied by a certified copy of the maps, plans and specifications for the construction of such waterworks, a description of the source or sources from which it is proposed to derive the water supply and the manner of storage, purification or treatment proposed for the water supply prior to its delivery to consumers.

The application also shall include a comprehensive business plan detailing the technical, managerial, and financial commitments to be made by the owner in order to assure that system performance requirements for providing the water supply will be met over the long term. The Board, in consultation with the State Corporation Commission, shall establish the criteria to be used by the applicant in the development of a business plan.

In addition, the Board may require the submission of a business plan by those existing waterworks that have demonstrated significant noncompliance with the waterworks regulations. The Board may waive the requirement for submission of a comprehensive business plan for applicants who have demonstrated a history of acceptable compliance with waterworks regulations.

If any applicant so requests, the Board shall not disclose the contents of the comprehensive business plan except as necessary to perform its duties.

C. The permit may state the permitted capacity of the waterworks, the permitted source or sources of the water supply, the permitted manner of storage, purification and treatment for the water supply and such other conditions as the Commissioner may deem necessary to afford a supply of pure water.

D. Except as may be provided by regulation of the Board, no other source of water supply shall subsequently be used for any such waterworks, nor shall any change in the manner of storage, purification and treatment of the water supply be made without obtaining an additional or amended permit.

E. Whenever application shall be made to the Commissioner for a permit, he shall examine the application and, as soon as practicable thereafter, shall issue the permit if, in his judgment, the proposed waterworks will furnish pure water. If the proposed waterworks is not in compliance with all regulations of the Board but, in the opinion of the Commissioner, the public health will not be jeopardized, the Commissioner may issue a temporary permit for such period of time and subject to such conditions as the Commissioner may deem appropriate for the owner to achieve compliance with such regulations.

F. No permit shall be assigned or transferred. (Code 1950, §§ 62.1-50, 62.1-56; 1964, c. 475; 1968, c. 659; 1979, c. 711; 1994, cc. 395, 708.)

Law Review. - For article on problems of water resource management in Virginia, see 13 Wm. & Mary L. Rev. 388 (1971). For survey of Virginia law on governmental services and social welfare for the year 1978-1979, see 66 Va. L. Rev. 301 (1980).

APPENDIX C

STAKEHOLDER GROUP-
CAPACITY DEVELOPMENT STRATEGY TEAM

Capacity Development Strategy Team

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APPENDIX D

DRINKING WATER PEER REVIEW PROGRAM

Virginia's Drinking Water

PEER REVIEW PROGRAM

Partnership for the Future

Who Will Benefit from the program?

Any drinking water system experiencing difficulties in consistently providing safe drinking water over the long term can benefit by utilizing the technical expertise of the Peer Review Program and from the diverse group of enlisted volunteers that comprise the Peer Review Teams.

How Does the Program Work?

Self-Assesent

To begin the process, the participating drinking water system fills out a comprehensive Self-Assessment form to evaluate the present condition of the system and bring attention to the noticeable problems of the system. The Self-Assessment is then sent to a Peer Review Team.

On-Site Peer Review Evaluation

A Peer Review Team, consisting of volunteers from the surrounding communities, is assigned to conduct an in-depth evaluation of the participating drinking water system. The focus of the team will be to help the system meet the requirements of existing state and federal regulations including the Safe Drinking Water Act (SDWA). Upon completion, the team presents its evaluation to the management of the participating drinking water system, along with recommendations for meeting the required regulations.

Recommendations

Once the evaluation is completed, and recommendations are presented to meet the requirements of existing regulations, the Peer Review Team may also make suggestions to benefit the system in other areas such as:

- Enhancing System Performance
- Sustainable Development
- Planning for Economic Growth & Financing
- Improving Drinking Water Quality
- Educating Communities on Drinking Water Issues

Program Advantages

The Peer Review process will benefit participating systems by improving:

- Efficiency
- Reliability
- Productivity
- Knowledge
- Infrastructure
- Performance
- Responsiveness
- Conservation

and by reducing:

- Compliance/Violation Costs
- Compliance Problems
- Complaints
- Downtime
- Expenses
- Liability

These benefits can be achieved by having a participating system do a comprehensive Self-Assessment of their system, followed by an on-site Peer Review Evaluation by the Peer Review Team.

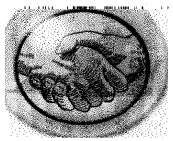
Anticipated Outcome

The Program has community and system commitment; sustainability; and economic benefits for water supply management, performance, and protection. Communities, systems, and governments are encouraged to work cooperatively toward improving environmental performance in providing technical and managerial assistance through the Peer Reviews. With this program, communities and drinking water systems will assist each other in the development of management techniques aimed at enhancing viability; sustainable development; economic growth; and providing opportunities for educational improvements within the communities and the public while improving the quality of Virginia's drinking water.

For information, please contact:

Peer Review Program c/o Virginia
Association of Counties 1001 East
Broad Street, Suite LL 20 Richmond,
VA 2 3 219-192 8

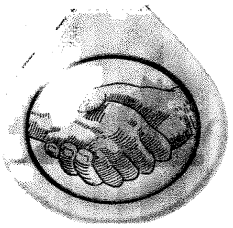
(804) 788-6652 or
FAX (804) 788-0083
E-mail: Peer.Review@vaco.org
Web Site: www.vaco.org



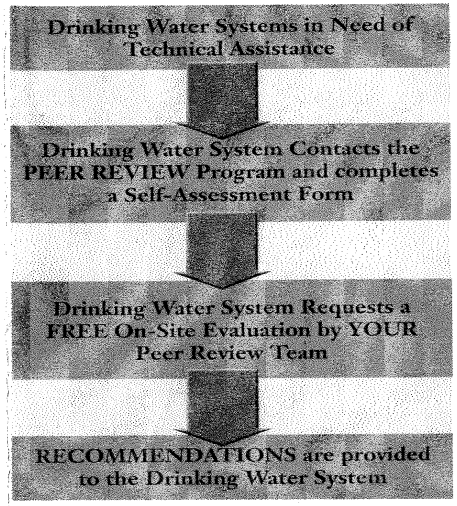
Overview of the PEER REVIEW Program

Virginia's Drinking Water Peer Review Program is a *volunteer* program designed primarily to provide technical expertise to drinking water systems in participating communities throughout Virginia. A participating community is defined as a geographic area within which a public, private, or municipal water system is providing potable drinking water services. Typically, a Peer Review is conducted (upon request) by a volunteer Peer Review Team established from representatives of the various localities within the State. This program is geared to small and rural communities but not limited by size or function. It is an innovative approach addressing environmental performance, system capacity, and the management of drinking water facilities utilizing the expertise created by the establishment of these Peer Review Teams. As a participating member of the PEER REVIEW program, you will be provided with the *Volunteer Directory* containing the names of contacts with the necessary expertise to assist you. There is *no cost* to you!
So, take advantage of this partnership -

The PEER REVIEW Program.



(Getting Help)
PEER REVIEW FOWCHART



Partners in the Program

- Participating Drinking Water Systems
- Virginia Rural Water Association
- Virginia Section - American Water Works Association
- Virginia Association of Counties
- Virginia Department of Health
- Southeast Rural Community Assistance Project, Inc.
- City of Norfolk, Department of Public Utilities
- U.S. Environmental Protection Agency
- Virginia Municipal League

APPENDIX E

VIRGINIA DRINKING WATER STATE REVOLVING FUND (DWSRF) PROGRAMS AND ACTIVITIES

Virginia Drinking Water State Revolving Fund (DWSRF) Programs and Activities

Please check (✔) the items for which you would like to receive more information and return this form to:

Thomas B Gray, P.E.
Virginia Department of Health
1500 East Main Street, Suite 109
Richmond, Virginia 23219
Fax: (804) 786-5567

Construction Assistance:

- **( )** Construction Loan – Interest rates range from 3% to ceiling rate which is 1% below prevailing municipal bond market rates. Maximum term 20 years. Lower rates and longer terms are considered for waterworks meeting disadvantaged criteria.
- **( )** Construction Grant – Will be considered for waterworks meeting disadvantaged criteria.

General Technical Assistance:

- **( )** Planning/Design Grant – Ten grants up to $25,000 per project to be awarded annually. Grants are especially for small, rural, financially stressed, community waterworks.

Small System Technical Assistance – Applies to public water systems serving 10,000 people or less:

- **( )** Circuit Rider – An independent contractor will provide on-site operational assistance to 1,000 waterworks with less than 500 population.
- **( )** Source Water Protection – An independent contractor will provide guidance to 100 waterworks in developing and implementing a Source Water Protection Program.
- **( )** Compliance Guidance – An independent contractor will provide assistance to 26 waterworks that are in significant non-compliance or nearly so.
- **( )** Small System Management Institute – An educational program to provide small system waterworks owners and superintendents intensive training in current business management techniques.
- **( )** Professional Series of Specialty Seminars and Training Events – Training for waterworks owners to include such topics as emerging technology, regulatory compliance, and business plan development.
- **( )** Training Scholarships – Awarded to waterworks operators to attend the *Water Treatment Plant Operations Short Course* and the *AWWA Water Utility Management Institute* at Virginia Tech.
- **( )** Equipment – Particle Counters and Leak Detectors are available for loan to waterworks.
- **( )** Innovative Technology

State Programs Assistance:

- **( )** Operator Certification – A "Distance Education" program using video telecourses to be available to assist operators in obtaining certification.
- **( )** Operator Scholarships for Distance Learning
- **( )** Courier
- **( )** Lab Equipment at Division of Consolidated Laboratory Services (DCLS)
- **( )** Research – capacity; telemetry; web site
- **( )** Research – Operator Availability and Certification Strategies

Local Assistance:

- **( )** Loans to Acquire Land/Conservation Easements to Protect Source Water – Interest rate is 4% and term is 20 years. Disadvantaged waterworks may receive a 3% interest rate.
- **( )** Loans to Establish Local, Voluntary Incentive-Based Source Water Protection Measures – Interest rate is 4% and term is 20 years. Disadvantaged waterworks may receive a 3% interest rate.
- **( )** Comprehensive Business Plan – An independent contractor will provide hands-on guidance and assistance to 25 waterworks in developing a Comprehensive Business Plan that follows Virginia Department of Health guidelines.
- **( )** Peer Review or Mentoring

Information Request From:

Name_____Title_____
Representing_____
Address_____
City_____State_____Zip_____
Phone (_____)_____ FAX (_____)_____

Attachment B

Baseline Assessment Instruction and Criteria

The 1996 Safe Drinking Water Act Amendments include requirements for states to develop a strategy to address the TMF capacity of existing community and noncommunity waterworks under the jurisdiction of the VDH-DDW. Capacity in this context is defined as the waterworks ability to meet TMF needs. This strategy mandated that VDH-DDW, as the State Primacy Agency, develop a system to prioritize which waterworks need technical assistance and a means to measure improvements over time. A baseline assessment was performed on community and nontransient noncommunity waterworks. The baseline was for the year 1999 and the baseline assessment was performed by July 1, 2001. A re-evaluation will be completed in approximately three years.

The baseline assessment considered:

- Waterworks Compliance in 1999
- The physical condition of the facilities of the waterworks in 1999
- Other managerial and financial factors
- Ability to comply with anticipated future regulations

Specific Criteria are shown in Attachment C. The assessments were completed utilizing existing information from sanitary surveys and office files, coupled with field office personnel's knowledge of the systems. The assessment consisted of 22 questions.

An Access routine was developed for field offices to use to assess TMF capacity of waterworks.

Attachment C

1999 Baseline Assessment –
Waterworks Totals for Community & NonTransient NonCommunity Waterworks

Criteria Used for Review	No. of Waterworks Meeting Criteria	Percentage of Systems
A. Waterworks Compliance Factor:		
Is the Waterworks on the 1999 SNC list prepared by the Director of Compliance & Enforcement?	46	2.46%
Have Treatment Technique violations occurred in 1999?	77	4.12%
Did the Waterworks fail to collect the proper number of bacteriological samples for two or more months or fail to submit monthly operation reports for three or more months in 1999?	271	14.49%
Did waterworks fail to pay the technical service fee? (1999 billing list provided by DWSE)	31	1.66%
Did the system have any CCR violations? (Based on 1999 reports (1998 data))	31	1.66%
B. Waterworks Condition Factor:		
Did waterworks operate at greater than 95% of (permitted) capacity for 3 or more months in 1999?	262	14.01%
Does any water source fail to meet 1995 design/construction standards?	375	20.05%
Do treatment systems generally fail to meet 1995 design/ construction standards or are they in poor operating condition?	107	5.72%
Does distribution piping generally fail to meet 1995 design/construction standards?	478	25.56%
Do finished water storage facilities generally fail to meet 1995 design/ construction standards?	552	29.52%
C. Managerial/Financial Factor:		
Frequent, 3 or more in 1999, valid incidents of customer complaints reported to the field office for the following reasons: a. Water outages b. Low pressures (<20 psi) c. Turbid/discolored water* d. Other	32	1.71%
No Comprehensive Business Plan (when required by Field Office)	27	1.44%
Unmetered service connections	397	21.23%
Operations Staff does not meet 1995 Regulations for the following a. OIRC does not have required license b. Cannot cover sick leave & vacations	342	18.29%
Facility Maps are inadequate or don't exist	373	19.95%
Cross Connection Control Program does not exist or is not implemented	285	15.24%
Not a Miss Utility Member	746	39.89%
Generally not responsive to correcting recommendations in sanitary surveys	185	9.89%
D. Future Regulations Factor:		
Operator Certification: Check Yes if an unlicensed operator is operating the water system.	816	43.64%
LT1 Enhanced Surface Water Treatment Rule:	300	16.04%
Stage 1 Disinfectants/Disinfection Byproducts Rule (GW and SW):	54	
Groundwater Rule (GWR):	535	28.61%

Attachment D
Page 1 of 2

Programs sponsored by the VDH-DDW that promote operator and owner awareness in maintaining technical, managerial, and financial capabilities of a waterworks.

Program Name	Contractor/Organization	Purpose	Current Status
Professional Development Workshop Series	Virginia Tech	To provide distance learning training for owners/operators within the State of Virginia	Active
Job Match Web-site	Mountain Empire Community College	Provide waterworks with a specific employment service	Active
Distance Learning Program	Mountain Empire Community College	Provide Owner/Operators with distance learning resource	Active
Peer Review Program	Multiple Partners (see Attachment A for list)	Provides Peer assistance for waterworks in need of assistance	Currently under review for determining continuation
Business Plan Assistance for Small Waterworks	Southeast Rural Community Assistance Project, Inc.	Provides Business Plan assistance and preparation to Small Waterworks by providing a Small Business Specialist "Circuit Rider"	Active
Small Business Institute	Virginia Tech	Based on a pilot study performed in 2000, provides business training to owners/operators	Active in FY2002
Demonstration Project for Virginia Small Water Systems Co-Operative	Virginia Tech	To develop a conceptual cooperative structure for rural waterworks and demonstrate the validity of this structure in Carroll County, Virginia	Preliminary research completed in January 2002

Operators Short-School	**Virginia Tech**	**Provides training to owners/operators of waterworks in operations, maintenance, and regulatory compliance.**	**Held Annually**
Small System Technical Assistance Program (Engineering)	**Robert Finch, P.E.**	**Provided a circuit rider for on-site assistance to small systems**	**Currently inactive**
Small System Technical Assistance Program (SNC List System)	**Elvan Peed, P.E.**	**Provided a circuit rider for on-site assistance to small systems with substantial compliance problems**	**Currently inactive**

Capacity Development Strategy

Name, PWS #, and Address of System [1]	Start of Operation Date	Compliance Status October 1, 1999 - September 30, 2000	Compliance Status October 1, 2000 - September 30, 2001
Cana Regional Water - (C) VA1035066	12/03/1999	Yes	Yes
DCPSA-Osborns Gap - (C) VA1051727	01/21/2000	Yes	Yes
DCPSA-Route 80 - (C) VA1051728	07/26/00	Yes	Yes
Oldtown Water - (C) VA1077570	05/01/2000	Yes	Yes
Greater Tazewell - (C) VA1185762	02/28/2000	Yes	Yes
Baptist Valley - (C) VA1185763	02/28/2000	Yes	Yes
Clear Creek - (C) VA1191150	09/25/2000	Yes	Yes
The Boardwalk - (C) VA5067039	04/05/2000	Yes	Yes
Timbuctu Subdivision - (C) VA5117846	07/12/2000	Yes	Yes
Peumansend Creek Jail- (C) VA6033150	10/29/99	Yes	Yes

Capacity Development Strategy

Name, PWS #, and Address of System [1]	Start of Operation Date	Compliance Status October 1, 1999 - September 30, 2000	Compliance Status October 1, 2000 - September 30, 2001
Childhelp* - (C) VA6047030	12/06/1999	Yes	Yes
Crenshaw Lighting* - (NTNC) VA1063150	09/21/2000	Yes	Yes
WCSA-Blackwood - (NTNC) VA1195580	10/01/1999	Yes	Yes
Orchard View Elem - (NTNC) VA2069045	11/29/1999	Yes	Yes
Covenant House - (NTNC) VA2187085	09/15/2000	Yes	Yes
Eastern Shore Family* - (NTNC) VA3001982	12/21/1999	Yes	Yes
King & Queen CH - (NTNC) VA4097302	10/05/1999	Yes	Yes

Capacity Development Strategy

Name, PWS #, and Address of System [1]	Start of Operation Date	Compliance Status October 1, 1999 - September 30, 2000	Compliance Status October 1, 2000 - September 30, 2001
Bullfrogs & Butterflies* - (NTNC) VA4115850	09/22/00	Yes	Yes
St. John Neuman* - (NTNC) VA4145750	07/28/2000	Yes	Yes
Stewartsville Elem. - (NTNC) VA5019791	10/1999	Inactive	Inactive
Commerce Center*- (NTNC) VA5067137	04/28/00	Yes	Yes
Trevilians Square Apartments – (C) VA2109800	08/13/2001	N/A	Yes
VDOT Harrisonburg Residency – (NTNC) VA2165850	03/26/2001	N/A	Yes
North Elementary School – (NTNC) VA3175515	08/31/2001	N/A	Yes

Capacity Development Strategy

Name, PWS #, and Address of System [1]	Start of Operation Date	Compliance Status October 1, 1999 – September 30, 2000	Compliance Status October 1, 2000 - September 30, 2001
Harvest Home – (C) VA1105860	06/21/2001	N/A	Yes
Bold Camp – (C) VA1195640	06/18/2001	N/A	Yes
Road Branch-DCPSA – (C) VA1051730	01/16/2001	N/A	Yes
Fearls Branch-DCPSA –(C) VA1051731	03/15/2001	N/A	Yes
Saint Clairs Creek – (C) VA1173720	11/07/2000	N/A	Yes
Stoney Creek – (C) VA1071850	10/01/2000	N/A	Yes
Cherokee – (C) VA2005095	11/16/2000	N/A	Yes
Yellow Mountain Village – (C) VA2161665	12/12/2000	N/A	Yes
Young Life Camp –(NTNC) VA2163897	10/05/2000	N/A	Yes
Winnie The Pooh Preschool (NTNC)* VA6107790	10/04/2000	N/A	Yes

Capacity Development Strategy

Name, PWS #, and Address of System [1]	Start of Operation Date	Compliance Status October 1, 1999 – September 30, 2000	Compliance Status October 1, 2000 – September 30, 2001
Piedmont Child Care* – (NTNC) VA6061414	10/17/2000	N/A	Yes
Bedford Place Subdivision #2* – (C) VA5019050	04/26/2001	N/A	Yes
Stewartsville Consecutive – (C) VA5019795	10/19/2000	N/A	Yes
Riverbay – (C) VA5067788	04/17/2001	N/A	Yes
Smith Adult Care Center *– (NTNC) VA5143751	01/01/2001	N/A	Yes
Hawk's Nest Point – (C) VA5117375	08/01/2001	N/A	Yes
Tanglewood Shores – (C) VA5117833	10/26/2000	N/A	Yes
Amelia Courthouse*– (C) VA5007135	06/01/2001	N/A	Yes

Capacity Development Strategy

Name, PWS #, and Address of System [1]	Start of Operation Date	Compliance Status October 1, 1999 – September 30, 2000	Compliance Status October 1, 2000 - September 30, 2001
Cumberland Courthouse* – (NTNC) VA5049087	08/06/2001	N/A	Yes
Hickory Hill* – (C) VA5135260	03/21/2001	N/A	Yes
Ashland Christian Center* – (NTNC) VA4085015	01/01/2001	N/A	Yes
Founders Bridge* – (C) VA4145200	09/26/2001	N/A	Yes
Callao Shops and Apartments* – (C) VA4133170	11/17/2000	N/A	Yes
Indian Creek Yacht and Country Club – (NTNC) VA4133405	06/01/2001	N/A	Yes
Reedville Manor*– (C) VA4133740	11/30/2000	N/A	Yes
JCSA Newport News Service Area – (C) VA3095491	05/14/2001	N/A	Yes

***Denotes that a Comprehensive Business Plan was required.**

The following summaries and examples briefly describe VDH-DDW's interactions with various waterworks. These "case studies" are organized in relation to the Strategy and how VDH-DDW involvement was conducted.

The following are New Waterworks (FY1999-2002) that had owners with no previous waterworks experience within Virginia and were/are required to demonstrate their ability to maintain technical managerial and financial capacity.

PWSID #	NAME OF WATERWORKS	SITUATION	OUTCOME OR CURRENT SITUATION
5067039	The Boardwalk	This system is owned by a previous waterworks owner and a business plan was not required.	This system has not yet been issued an operation permit as we are awaiting a engineer's statement of completion.
5135260	Hickory Hill Adult Care Residence	A comprehensive Business Plan (CBP) was required and documented	No system permit has been issued at this time
5049087	Cumberland Courthouse	The county is in the early stages of developing an approved waterworks. The existing system is not approved and an operation permit has not been issued. A business plan has been required for the new system. Documentation for requiring a CBP is indicated in the file.	No permit issued yet
1063150	Crenshaw Lighting	Waterworks was "discovered" in late 2000. CBP was required and not yet received	Permit was issued based on current operation and condition of waterworks, however, enforcement action is being considered for obtaining a CBP as required
4145750	St John Neuman Catholic Church	CBP was required, reviewed and found acceptable	Permit issued

6061414	Piedmont Child Care Center	CBP was required, reviewed and found acceptable	Permit issued
4133740	Redville Manor	CBP was required, reviewed and found acceptable	Permit issued
3001982	Eastern Shore Family YMCA	CBP was required, reviewed and found acceptable	Permit issued
1185762	Greater Tazewell WTP	Requested a 6yr financial plan and water rate structure	Currently in the process of obtaining SRF funds, operation permit to be issued upon financial review and approval

The following are for new waterworks (FY1999-2002) that had current waterworks owners within the Commonwealth of Virginia and were evaluated and found to possess adequate Technical, managerial, and financial capacity. No CBP was required for these new systems.

PWSID #	NAME OF WATERWORKS	SITUATION
1077570	Oldtown Water Systems	This water system is operated by the County Board of Supervisors and based on the current TMF of their actively permitted waterworks within the State of Virginia, the operation permit was issued.
5019795	Bedford-Stewartsville Consecutive	Waterworks is owned and operated by an existing owner (Bedford Co. PSA) and no additional CBP was required due to acceptable TMF capabilities
3175515	Nottoway Elementary School	Owned and operated by the County School Board and based on the current TMF of their actively permitted waterworks within the State of Virginia, the operation permit was issued.
1051727	Osbornes Gap	Public Service Authority Owned and Operated and based on the current TMF of their actively permitted waterworks within the State of Virginia, the operation permit was issued.
2171251	Stoney Creek Sanitary District	Public Service Authority Owned and Operated and based on the current TMF of their actively permitted waterworks within the State of Virginia, the operation permit was issued.

The following are examples of Significant Non-Complier's (SNC) and a brief synopsis of their situation and how VDH-DDW involvement resulted in owner/operator compliance with the SDWA.

PWSID #	NAME OF WATERWORKS	SITUATION	OUTCOME OR CURRENT SITUATION
6061125	Drysdale Subdivision	This system owner was referred to EPA by DDW after the system maintained non-compliance on the SNC list. EPA issued a Notice of Violation (NOV) to the owner. The owner, as a result of the NOV, sent a letter to the residence/customers stating his intent to abandon by a specified date. DDW Director of Enforcement/Compliance contacted the SCC for assistance. The SCC held a hearing on this intent to abandon and introduced a charge of prohibition to the owner.	The owner agreed not to abandon the waterworks and transferred the ownership to a new owner (Dave Travers).
	Starwood/Lakemont	VDH issued AO, owner violated order, VDH referred to commonwealth attorney, found guilty of Class I misdemeanor. The owner was fined and jailed. Court placed waterworks into receivership.	Owner sold system to Home Owners Association (HOA)
	Broad Run Service Corporation-	VDH held informal hearing with owner, established AO 10-99, owner sold system 5-00.	Waterworks returned to compliance by new owner.
	Town of Honaker	VDH issued a consent order on 11/99 which included a compliance schedule	Waterworks was returned to compliance.
	Ramada Inn	VDH issued a consent order on 3-00 with a compliance schedule.	System connected to county owned waterworks and was returned to compliance